



Adherence: Time for a new definition?

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Why do we think adherence so low?

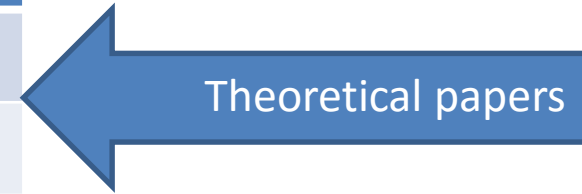
- “What we need are new ways to improve human motivation to take the medications... The holy grail here is to add motivation innovation to the mix”
 - Firlik, K., 2013. Why I went from neurosurgeon to entrepreneur
- But what about:
 - Poor instructions, disrupted patient routines, bad size/taste, side-effects, lack of support, complex regimens, lack of storage, lack of access, stigma....
- “At the centre of service delivery is the patient”
 - Musgrove, P., et al., 2000. Health systems: improving performance
 - Do we actually know what patients want and understand their consumption contexts?



Adherence definitions through the years



Year	Definition	Reference
2007	"the extent to which patients follow the instructions they are given for prescribed treatments"	Munro, Lewin, Swart, & Volmink
2009	"the extent to which the patient's behaviour matches agreed recommendations from the prescriber"	Nunes et al.
2011	"initiating the prescription, actual dosing in relation to the prescription, and persisting with treatment"	Eliasson, Barber, &



Year	Definition	Reference
2012	"the extent of conformity to treatment recommendations with respect to the timing, dosage, frequency, and duration of prescribed medication"	McDonald, Garg, & Haynes
2013	"the process by which patients take their medication. Adherence has three components: initiation, improvement, and discontinuation"	Kripalani, Yao, & Haynes
2014	"correctly taking the full therapeutic course of treatment"	Tsega, Srikanth, & Shewamene
2014	"those who reported to have taken the treatment (in terms of timing and dosage) with no tablets remaining"	Chew, Hassan, & Sherina
2015	"a ratio of the number of drug doses taken to the number of doses prescribed over a given time period"	Touskova et al.
2015	"self-reporting to have correctly taken the entire course of treatment"	Gore-Langton et al.
2015	"the extent to which [patients] have altered their dose, forgotten to use the medication, stopped taking it for a while, decided to miss out on a dose, and taken less than instructed... adherence being defined as answering 'never' to all five"	Sandy & Connor

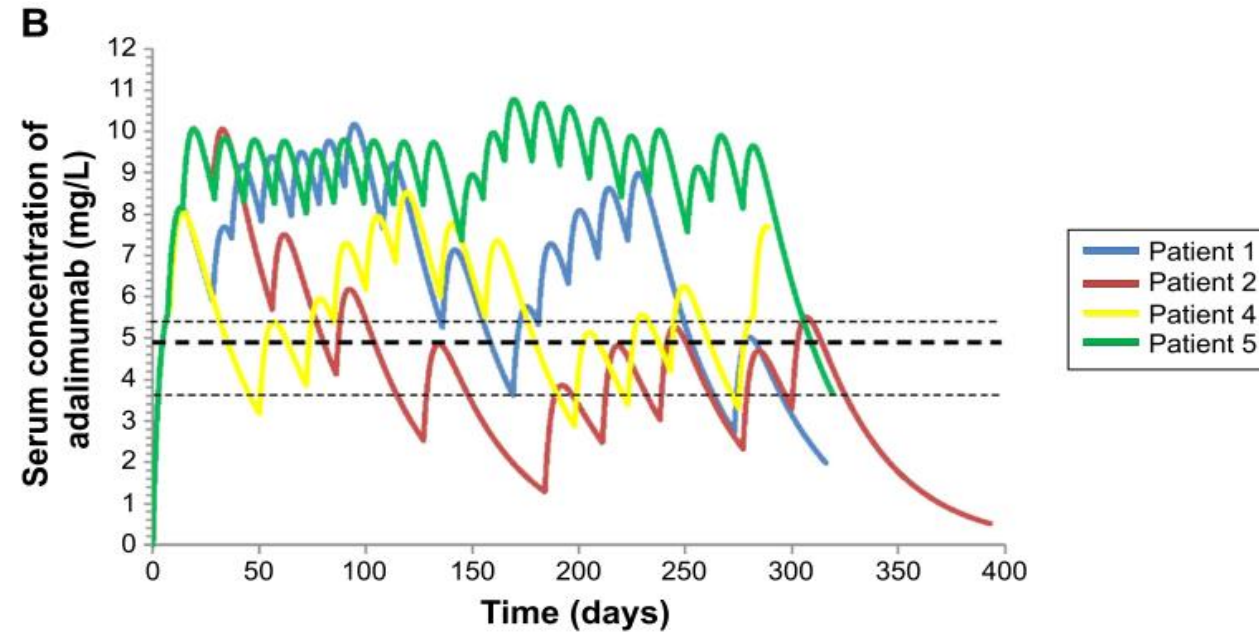
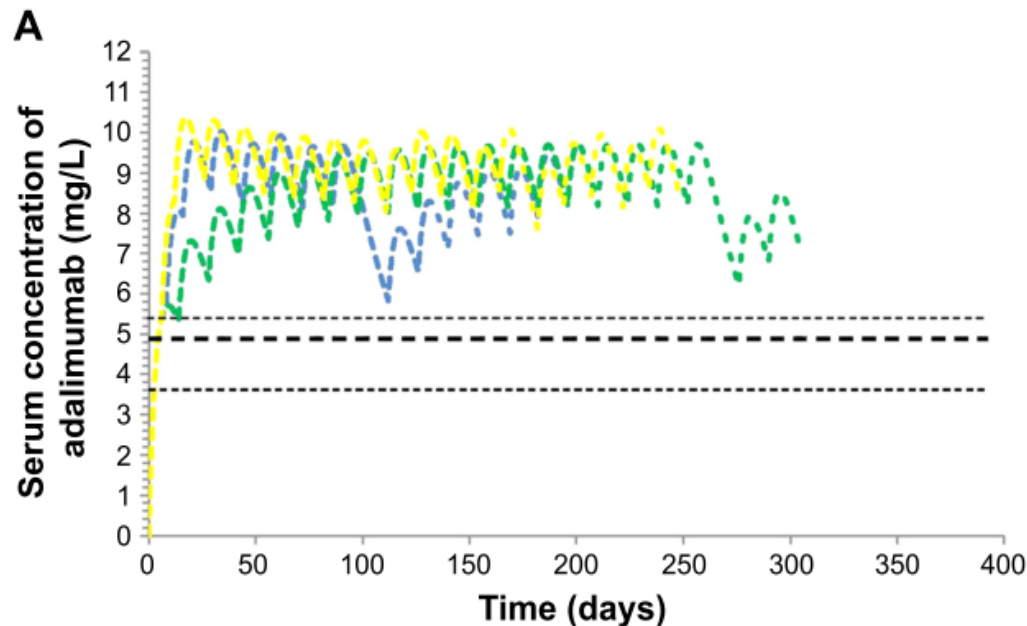


Do we know what adherence looks like?



Table 1 Dosing intervals and time below therapeutic threshold for patients 1–7

		Dosing interval (days)	Range (days)	Days below threshold (%)
		Days between doses		
Patient 1		7,21,9,14,14,13,12,18,28,33,12,14,14,14,50,43	7–50	23.2
Patient 2		7,7,14,28,30,41,57,27,27,39,23,93	7–93	71.3
Patient 3		8,8,13,15,13,15,14,26,14,14,14,15,13,14	8–26	0.0
Patient 4		8,42,22,13,15,14,21,21,42,25,20,32,7,7	7–42	31.8
Patient 5		7,7,15,14,14,15,13,14,14,14,18,10,10,13,13,14,15,13,18,11,15,42	7–42	3.5
Patient 6		14,14,14,14,14,14,14,14,14,14,14,14,14,14,14,14,14,24,14,14	14–24	0.0
Patient 7		6,6,14,14,14,14,14,14,15,12,14,15,12,18,12,13,15,12,14	6–18	0.0



Who is responsible for patient adherence?

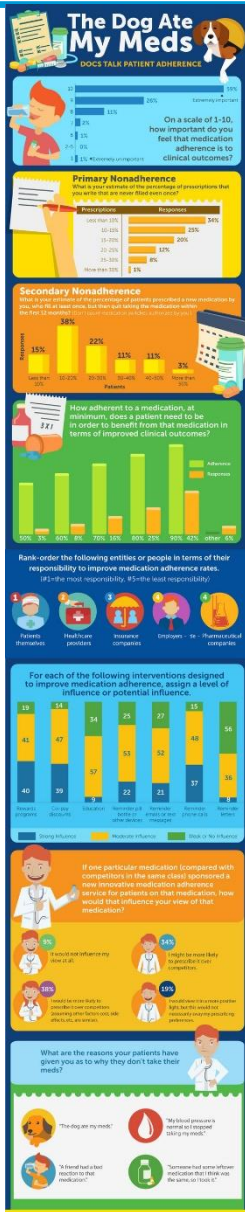


- Pharmaceutical manufacturers?
 - “I really believe that in the future, companies like Novartis are going to be paid on patient outcomes as opposed to selling the pill”
 - Joseph Jimenez, Novartis CEO, 2014
- Practitioners?
 - “...pharmacists have the potential to perform a central role in providing consumers with the relevant information they need to make responsible decisions that lead to increased adherence”
 - Kreps, G.L., et al., 2011. Development and validation of motivational messages to improve prescription medication adherence for patients with chronic health problems. Patient Educ. Couns. 83, p.375–81.
- Patients?
 - “...the patient is free to decide whether to take the treatment or not”
 - Nunes, V., et al., 2009. Clinical Guidelines and Evidence Review for Medicines Adherence: involving patients in decisions about prescribed medicines and supporting adherence. Royal College of General Practitioners, London, UK.

Let us define adherence around the patient



- Adherence is using skills and resources to follow an externally imposed pattern of behaviour sufficiently to achieve the patient's objectives in context
- Implications include:
 - Pharmaceutical manufacturers must ensure drug formulations take full account of patient objectives and contexts
 - Patient information from all sources must be comprehensible and consistent
 - Practitioners must acknowledge where the power lies and educate patients through dialogue
 - The focus then shifts from arcane calculations to guiding patients on how best to achieve *their* objectives





Thank you!

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